



- New CADD Workshops
- Google Tip
- FAQ Files
- MicroStation V8 tips

CADD NEWS

Summer Upgrades

Summer has finally arrived and so has what seems like an annual ritual of summer upgrades. This summer we have one big one and one ongoing one. First the big one – The long serving but dependable HP4MV B size laser printers are being replaced. After over 10 years of faithful and dependable service they have finally earned the right (mainly due to lack of parts and increasing service costs) to retirement.

The 4MV replacement will be another HP product the HP Laser Jet 5200 DTN. The 5200 is a 35 ppm printer (3 times faster than the 4MV) and prints duplex (both side of the paper for you analog folks out there) to a resolution of up to 1200 x1200 dpi. One of the biggest things you will notice about it will probably be that according to HP it will print the 1st page you send in less than 10 seconds which will be a substantial improvement over the 4MV.



Additionally we will be replacing all the HPW4000 and most of the HPXW4000 workstations with the new HP XW4400 workstations. As always these new workstations will be noticeably faster than the ones they are replacing and have bigger hard drives and more memory. The two biggest changes will be that the XW4400 will run Microsoft Windows XP instead of Windows 2000 and will come with a 19 inch LCD monitor instead of the 21 inch CRT which came with the older models.



CADD Support Intranet

Next time you logon to the NCDOT Portal (intranet) check out the CADD Support pages. The address is:

<https://intranet.dot.state.nc.us/portal/desktopdefault.aspx>

Please explore the site and let us know how we can make the site more useful to you, our users. Email your thoughts and comments to:

rjrobinson@dot.state.nc.us

I look forward to hearing and implementing your suggestions. BTW Check out the videos section.

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The Training Corner – Tale of Two Courses

Criteria Workshop

After a long development period, CADD Services has finally put together and started teaching a Criteria Workshop. This one day CADD workshop is intended to help our users to use GEOPAK criteria to automate the production of final design cross sections of undivided or two lane roads. The course is based around using CADD Services developed criteria spread sheets to create and apply GEOPAK criteria to a variety of highway design situations. Topics covered in the course include:

- What is Criteria?
- Superelevation Shapes
- Proposed cross sections (new section)
- Proposed cross sections (widening)
- Trouble shooting and tricks and tips



Roadway Plan Preparation and Hearing Maps

In the first of a series of planned workshops and courses the Roadway Design Unit is now offering two half-day workshops/classes. The first class is called Plan Production and covers the basic concepts and tools that the Roadway Design Unit uses to create highway plans. The second course– NCDOT Roadway Design Public Hearing Map covers the creation of Public Hearing maps as per the Roadway Design Manual, Part II chapter 21. This Half day course covers the new roadway use of MicroStation models and GEOPAK ddb files to produce a finished hearing map. For more information on these new roadway courses check out the roadway training link at – <http://www.ncdot.org/doh/preconstruct/highway/roadway/training/>

How to get CADD training

With each new version of software comes the never ending activity of learning how the program's great new features work and which old ones don't. The introduction of MicroStation V8 and its associated programs are no exception.

The additions of unlimited named levels, models and a slew of user interface enhancements can make one's first attempt to use V8 a bit over whelming. If you need training for a new employee or feel you need a refresher course in any of our CADD products, all you need to do is go to the CADD Support Website at:

<http://www.ncdot.org/~cadd>

Then select Training from the main menu. From the Training page download and fill out the CADD request Training form and mail the form to:

Ed Williams
Engineering Application Services
1597 Mail Service Center
Raleigh, NC 27699-1597

CADD Services will get you into the next available class provided there is no waiting list.

Remember that it is not necessary to continue to fill out requests if a request is on record. If in doubt email Ed at elwilliams@dot.state.nc.us

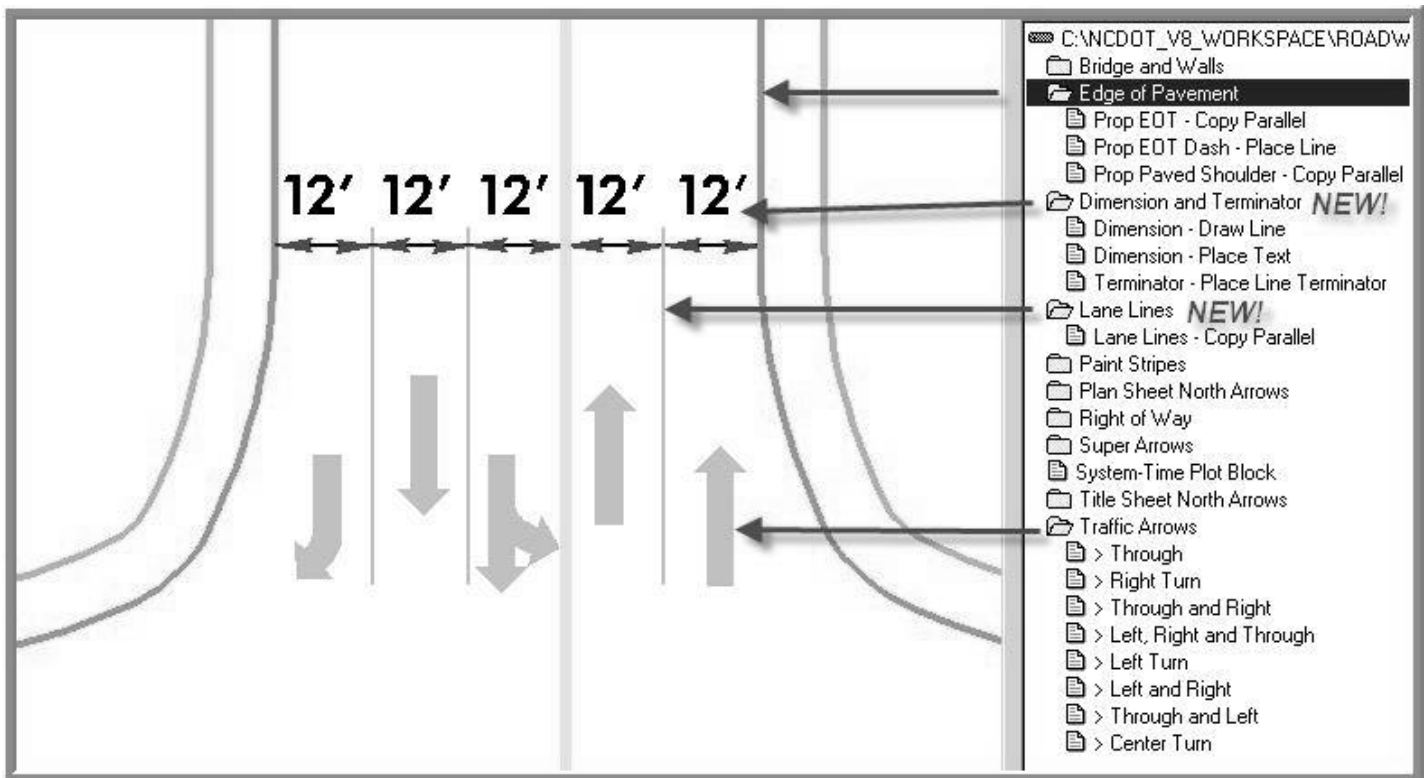
Also, when making a request, checked off all the classes that you wish to take. (i.e. It's not necessary to complete Microstation before you **can request** GEOPAK). Once we receive and enter a request our database keeps up with them.

GEOPAK - What happened to the Lane Line tool in D&C Manager?

from the Roadway FAQ files

A few Drafting D&C Manager tool items did not get carried over when we migrated from Microstation J to Microstation V8. The lane line tool item was one of them.

Traffic lane dimension and design are crucial, integral tasks of Roadway Design. They are commonly done in the vicinity of at-grade intersections, before grade separations (approaching underneath structures), and at the beginning and ending of each plan sheet. For these reasons, the Drafting D&C Manager will now include a Lane Lines category folder, as well as other "smart" tool items capable of automatically activating or disabling Place Influence override options. See Picture below. In addition, just like our newly redesigned Hearing Map D&C Manager, all operations, tool items under each category folder, will be in some sort of sequence as required by the task at hand.



NCDOT design script (pen table) for plotting color under development

NCDOT design script (pen table) for plotting color – At request of user, CADD Services developed an NCDOT color pen table that addresses line weights. Previously, for color plotting, the user was directed to not use the NCDOT pen table (V8_ncdot_e.pen) which is what forces everything to plot black. While this allowed the user to plot in color, the line weights would plot differently than through the standard pen table, resulting in the inability to produce a color plot that had the same “look” as the black and white plot. This has not yet been pushed up to the workspace. (This may also require using a “yellow to black” color table as the yellow typically doesn’t show up well on the plot.)

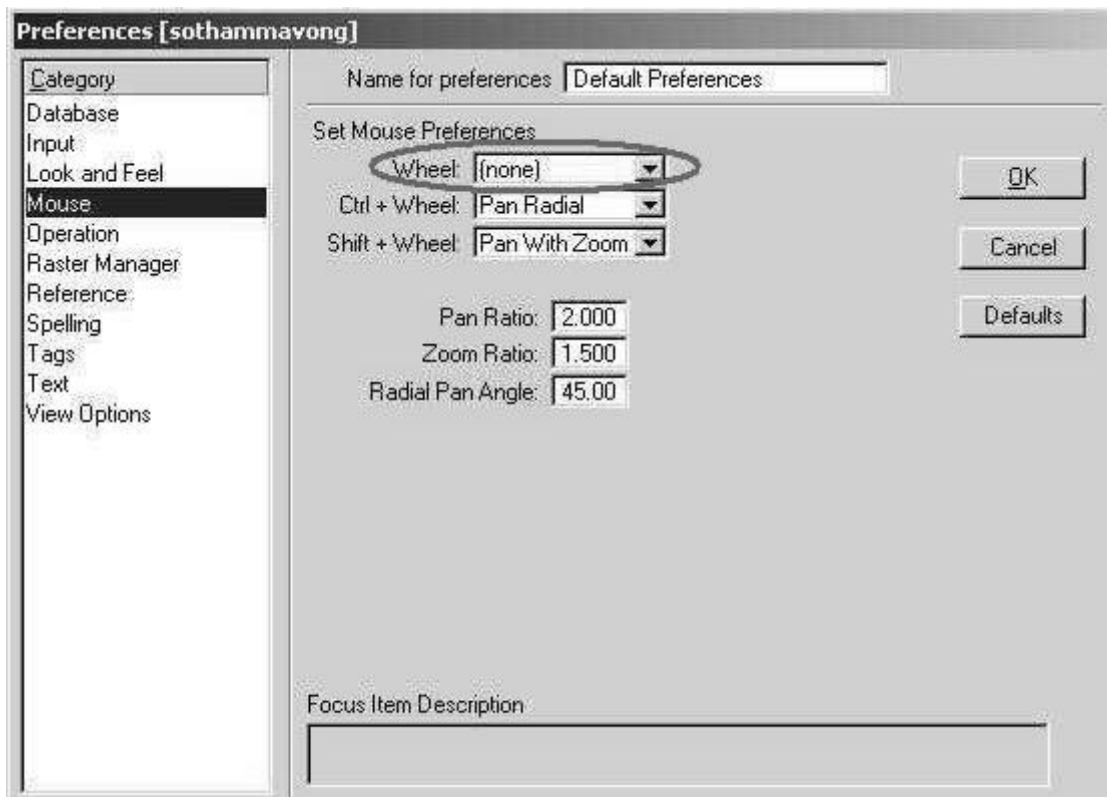
MicroStation - Screen Jumps With Mouse Tentative Function

from the Roadway FAQ files

In a Microstation file, while performing a tentative function, my screen jumps and becomes erratic. What can be the possible cause of this problem? Is there any fix?

For those with the middle scroll mouse wheel, it is the sensitivity of the scroll wheel rotation. The middle mouse wheel is set by default to zoom in and out with the rotation of the wheel and simultaneously perform a tentative function when depressed. When both functions are performed at the same time, it will sometimes appear like the screen is "jumping" (zooming in an out) while the tentative function is being performed.

Designers can turn off the zoom function of the middle mouse wheel as an option to resolve this issue. While in a Microstation session, under the main menu click Workspace and Preferences Select Mouse item and set Wheel option to "(none)". Click OK to finish the mouse preference settings.



Note that this is only performed as an option. The Default mouse configuration is still the recommended setting. Perform this only if you are not satisfied with the Default mouse setting.

Check your training profile

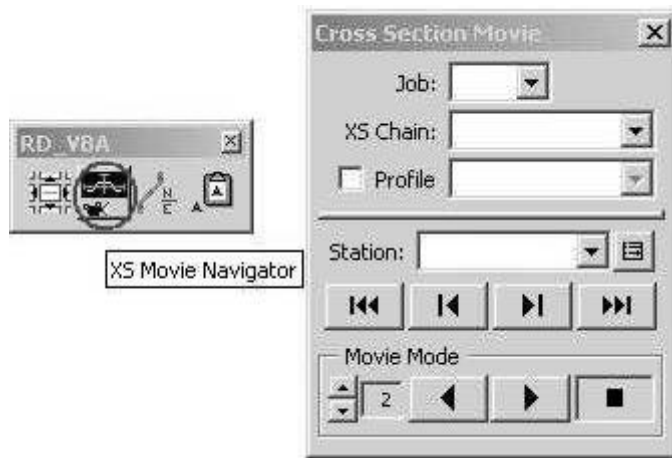
After you take a class.... CADD Support submits the rosters once a month, at the end of the month, for entry into the personnel system, (therefore there is a lag from when you take the class to when you see it on your record). Check out your training record at:

<http://www.ncdot.org/services/personnel/training/myprofile/>

GEOPAK– XS Movie Navigator VBA

Currently the GEOPAK Cross Section Navigator does not have the ability to lock in the view with respect to a profile or grade. As you move from one cross to another, the view is dependent on the fixed location of the cross section horizontal green cell dashed line.

However, Bentley has developed a separate VBA called XS Movie to navigate through various cross sections in a file. XS Movie does have the ability to lock the view with respect to a profile or grade, as an option. I have slightly modified the code to prevent some errors that may occurred with the original version for Roadway.



As you can see, the buttons look like the model navigator. The model navigator used the buttons from the XS Movie Navigator. The XS Movie Navigator can be launched from the RD_DSN tool frame, RD_VBA tool family. Any stored profile or grade, proposed or existing, in the GPK database can be used with the XS Movie Navigator. Please see the below reference web help link for further detail before you use this tool.

Google Tip

Not only can you use Google to look up information on the internet you can also use it as a online calculator and conversion tool. Below are a few examples so the next time you are at a loss for a unit or number give it a try.

Key in 1 acre in sq ft and you get



Key in 1 nautical mile in ft and you get



Finally key in

Answer to life, the universe, and everything
And see what you get. Have fun.

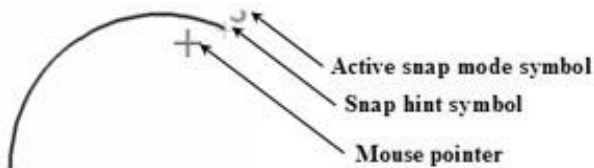
MicroStation V8 – AccuDraw

AccuSnap can locate exact positions on elements automatically (i.e. endpoints, center points, mid-points, etc.).

There are fourteen predefined settings that are used to snap to existing elements. These settings are called snap modes. Each specific snap mode, when active, will find and identify the locations on existing elements that it is assigned to. For example, when the midpoint snap is active, anytime the mouse pointer is close to a midpoint of an element (i.e. line, block, arc, etc.) AccuSnap identifies that location with a snap hint symbol.

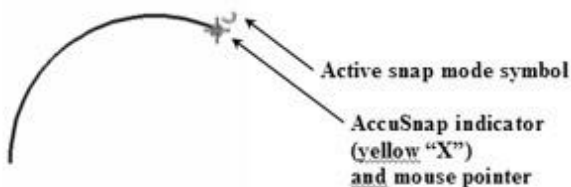
This symbol is a small crosshair that will appear when the mouse pointer is "close" to the element. Along with the hint symbol, the small active snap mode symbol will appear. This symbol simply shows which snap mode is currently being used.

If you move your mouse pointer over the snap hint



symbol, a yellow "X" will appear. The yellow "X" is the AccuSnap indicator showing that snap location can now be accepted with a 'D' button.

AccuSnap Settings



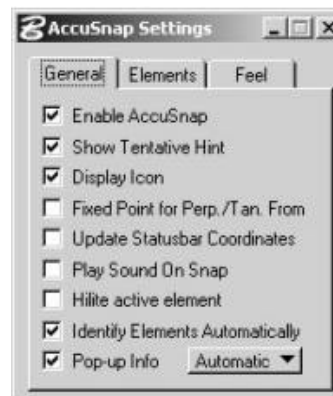
There are several AccuSnap setting options that are available in the AccuSnap Settings dialog box that control the operation of AccuSnap.

The AccuSnap Settings dialog box can be accessed from the following options:

1. From the MicroStation menu bar, choose Settings > Snaps > AccuSnap.
2. 'R' on the Toggle AccuSnap button from the Snap Mode button bar and choose the Properties option.
3. Choose AccuSnap from any of the snap flyout menus.
4. Enter "dialog accusnap" in the Key-in window, (Utilities > Key-in).

The AccuSnap settings are separated into three categories or tabs. These tabs include the General, Elements, and Feel tabs:

General tab - Includes options specifying which AccuSnap features are active. It also contains options for turning AccuSnap on and off.



Elements tab - Contains options for allowing or preventing snapping to specific types of elements.

Feel tab - Contains options that will allow you to adjust the tolerance of specific AccuDraw controls.

AccuSnap can be temporarily disabled by holding down the CTRL + SHIFT key. When it appears that

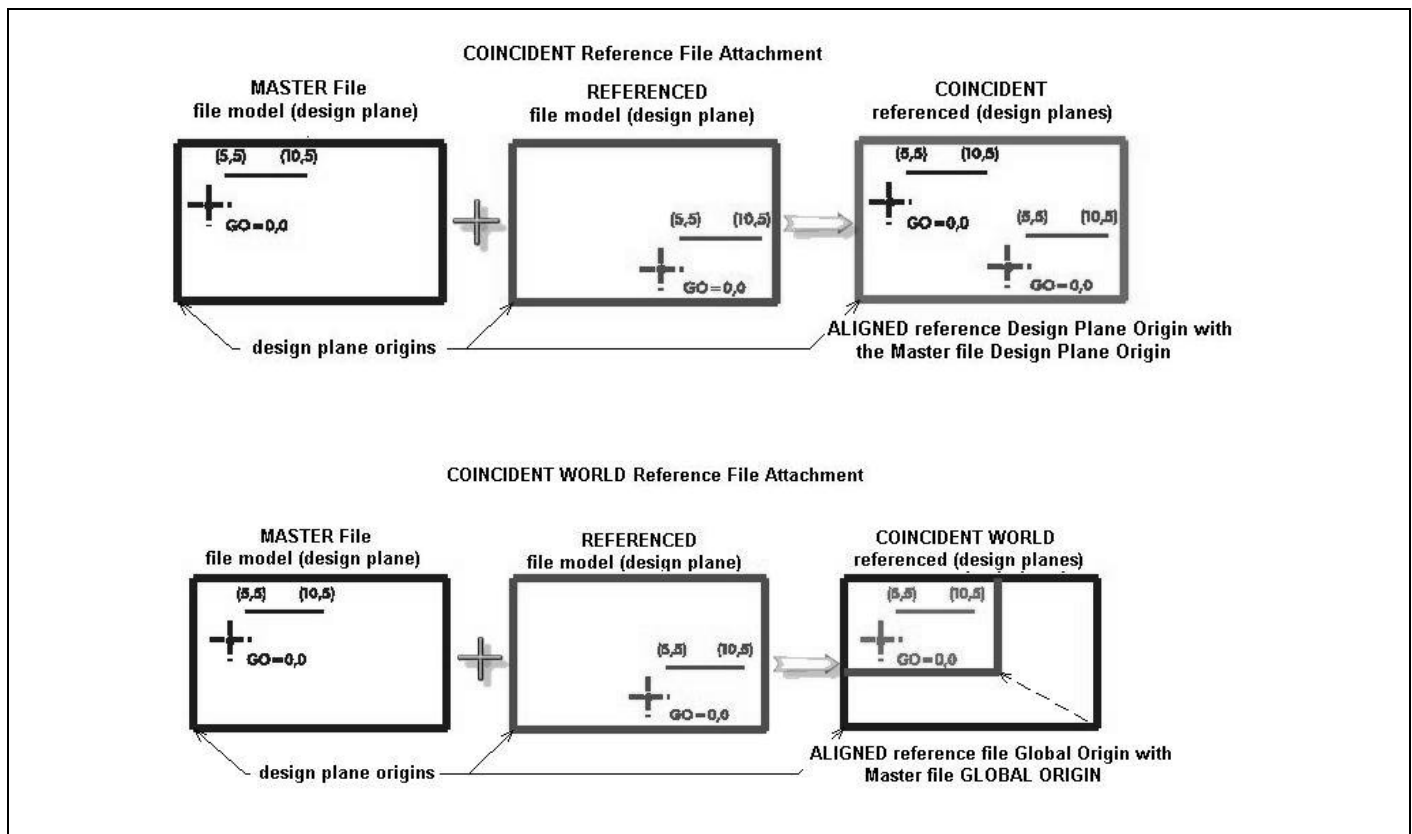
AccuSnap is not working CTRL + SHIFT can also enable AccuSnap for commands such as Place Fence and In-Roads tools.

INTERSTATE FACTS

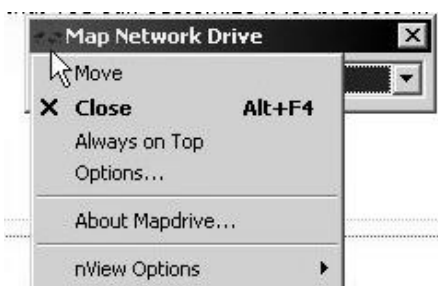
- ◆ The interstate system includes 55,512 bridges and 82 tunnels.
- ◆ Texas has the most interstate miles (3,233) but New York has the most interstate routes (29).
- ◆ Which interstate highway crosses the most states? And how many?

(answer on page on 8)

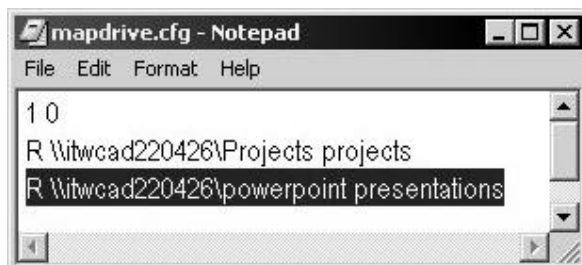
MicroStation V8 –Understanding Reference file attachments



MicroStation V8 – MapDrive



The MapDrive application can be found in your application folder in the NCDOT workspace. It is recommended that you create a shortcut on your desktop for quick reference to this application. MapDrive reads the username.mapdrive.cfg file off of your U: drive (or C:\temp if your do not have a U: drive mapped). This file can be edited so that you can customize it for projects in your group. To edit the file simple open it in a text editor (Ultra Edit or Notepad) copy and past the 2nd line. Then edit as needed.



The Last Word – Photos from a Recent Site Visit



Length – 1872 m
Width - 23,80 m (2x2 lanes)
Max height– 88 m

KOROSHEGY VIADUCT on the M7 Motorway *between Zamardi and Balatonszarszo, Hungary*



No. of Piers – 16 (from 17,90 m to 79,70 m)
No. of Spans – 17
 (60m +95m +13x120m +95m +60m)



Deck – in a 4000 m horizontal radius curve with 2,86% longitudinal and 2,51% transversal slope.



Substructure – bored piles 1200, 1500 dia. piles (total 19 km long). Piers built by climbing formwork technology in 5 m sections. Fixed bearings on four middle piers, moveable ones on rest, expansion joints at the two bridge ends (2 x 1,2 m)

Super Structure – one cross section, two cells, prestressed reinforced concrete box-girder 7 m high above pier and 3,50m high at middle of span.



Total concrete used about 120.000 cubic meters
 Total rebar in bridge



Specifically built onsite waste treatment facility to handle and treat all bridge drainage ==>>



I-95 passes through 15 states & the District of Columbia.

North Carolina Department of
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 CADD Services

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